

## LANDSCAPE MANAGEMENT II

*Landscape Management II* is a two semester course that extends the content and skills of Landscape Management and provides the student with in-depth exploration of the many career opportunities in the diverse field of landscape management. Students continue to build knowledge and skill in the procedures used in landscape planning and design using current industry standards and practices. Extended laboratory experiences include application of the principles and procedures involved especially in the Midwest and Great Lakes areas with landscape construction; turf management; scheduling and oversight of landscape maintenance; weed control; non-pathogenic and disease prevention, diagnosis, and treatment; communications; management skills necessary in landscaping operations; and the use and maintenance of equipment utilized by landscapers. Students should also participate in leadership development, supervised agricultural experience and career exploration activities in the area of landscape management.

### Course Specifications

- DOE Code: 5137
- Recommended Grade Level: 12
- Recommended Prerequisites: Landscape Management I
- Credits: 1-3 credit(s) per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for the General, Core 40, Core 40 with Academic Honors and Core 40 with Technical Honors diplomas
  - Pathway Assessment: Dual credit course final exam
  - This course is aligned with postsecondary courses for Dual Credit
    - IVY Tech
      - LAND 103 – Landscape Management

### Dual Credit

This course provides the opportunity for dual credit for students who meet postsecondary requirements for earning dual credit and successfully complete the dual credit requirements of this course.

### Application of Content and Multiple Hour Offerings

Intensive laboratory applications are a component of this course and may be either school based or work based or a combination of the two. Work-based learning experiences should be in a closely related industry setting. Instructors shall have a standards-based training plan for students participating in work-based learning experiences. When a course is offered for multiple hours per semester, the amount of laboratory application or work-based learning needs to be increased proportionally.

### Career and Technical Student Organizations (CTSOs)

Career and Technical Student Organizations are considered a powerful instructional tool when integrated into Career and Technical Education programs. They enhance the knowledge and skills students learn in a course by allowing a student to participate in a unique program of career and leadership development. Students should be encouraged to participate in FFA, the CTSO for this area.

## **Content Standards**

### **Domain - Pests and Diseases**

#### **Core Standard 1:** Common pests and diseases

##### **Standards**

- LM-1.1 Summarize the etiology, clinical signs, treatment, and prevention of common plant diseases
- LM-1.2 Identify weed, insect, and rodent pests
- LM-1.3 Differentiate between infectious and noninfectious diseases
- LM-1.4 Explain the procedures for reporting to environmental agencies
- LM-1.5 Summarize the benefits of Integrated Pest Management (IPM)

#### **Core Standard 2:** Pesticide Application and Treatment

##### **Standards**

- LM-2.1 Understand safety practices in use of chemical controls
- LM-2.2 Interpret pesticide labels
- LM-2.3 Explain procedures for storing and disposing of pesticides
- LM-2.4 Evaluate environmental and consumer concerns regarding pest management
- LM-2.5 Mix pesticides according to label directions

### **Domain – Equipment Safety and Maintenance**

#### **Core Standard 3:** Equipment Operations

##### **Standards**

- LM-3.1 Describe the types of equipment used in landscape industry
- LM-3.2 Identify and describe the function of landscape equipment
- LM-3.3 Compare and contrast gas powered and electric powered equipment
- LM-3.4 Understand the functions of motorized, hand-operated equipment

#### **Core Standard 4: Equipment Service Safety**

##### **Standards**

- LM-4.1 Describe the difference between two-cycle and four-cycle engines
- LM-4.2 Distinguish correct use of fuels and mixes
- LM-4.3 Use appropriate protection when servicing
- LM-4.4 Use appropriate protection from engine noise
- LM-4.5 Apply information found in owner's manual

#### **Core Standard 5: Equipment Service Procedures**

##### **Standards**

- LM-5.1 Demonstrate appropriate procedure for checking and changing fluids
- LM-5.2 Demonstrate appropriate procedure for sharpening blades
- LM-5.3 Demonstrate appropriate procedure for changing belts

#### **Domain – Plant Selection**

##### **Core Standard 6: Growth Characteristics and Function**

##### **Standards**

- LM-6.1 Classify plants by mature size, form, color, texture
- LM-6.2 Distinguish between deciduous and evergreen plants
- LM-6.3 Categorize trees, shrubs, herbaceous plants and grasses by function

#### **Domain - Irrigation**

##### **Core Standard 7: Installation of Irrigation System**

##### **Standards**

- LM-7.1 Analyze site conditions
- LM-7.2 Explain the differences between drip and turf sprinkler systems
- LM-7.3 Calculate area coverage dimensions
- LM-7.4 Establish design capacity of the site (flow rate in gallons per minute and pressure in pounds per square inch)
- LM-7.5 Identify components of drip and sprinkler irrigation systems (i.e., pipes, fittings, valves)

- LM-7.6 Establish sprinkler pattern and spacing
- LM-7.7 Calculate number of sprinkler heads, valves, and drains and the length of pipe needed and the cost of the parts, supplies, and labor for system installation

**Core Standard 8:** Irrigation System Maintenance

**Standards**

- LM-8.1 Explain how leaks impact system performance
- LM-8.2 Identify symptoms from leaks or broken components
- LM-8.3 Determine the correct procedure for adjusting the height and spray of sprinklers
- LM-8.4 List the procedure for repairing broken heads and replacing heads

**Domain – Tree and Shrub Maintenance**

**Core Standard 9:** Pruning and Managing Practices

**Standards**

- LM-9.1 Identify tools used for pruning trees and shrubs
- LM-9.2 Demonstrate industry standard practices for pruning trees and shrubs
- LM-9.3 Summarize the benefits of mulching
- LM-9.4 Calculate volume of mulch required for a site
- LM-9.5 Select appropriate fertilizers and application methods, irrigation practices and pest control strategies

**Domain – Turf Grass**

**Core Standard 10:** Installation of Turf Grass

- Standards** Select grasses according to potential use and environment
- LM-10.1 Distinguish between warm and cool season grass species
- LM-10.2 Distinguish between bunch and spreading grasses
- LM-10.3 Interpret a seed label
- LM-10.4 Research local turf restrictions
- LM-10.5 Compare and contrast methods of establishment (seed, sod, plugging, sprigging)
- LM-10.6 Compare and contrast equipment used for establishment
- LM-10.7 Select appropriate turf grass fertilizer
- LM-10.8 Justify the need for thatch control and core cultivation (aeration)
- LM-10.9 Compare and contrast the use of reel and rotary mowers
- LM-10.10 Select appropriate pest control strategies

**Domain – Hardscapes****Core Standard 11:**Selection of Hardscape Materials**Standards**

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|---------|---|
| LM-11.1 | Define hardscape  |
| LM-11.2 | List components in a hardscape design (i.e., patios, water features, walkways, shade structures)                            |
| LM-11.3 | Compare and contrast wall types used in the landscape (i.e., retaining, seat, decorative)                                   |
| LM-11.4 | Compare and contrast materials used in hardscapes   |
| LM-11.5 | Compare and contrast walkway construction materials and methods (i.e., concrete, pavers, stone)                             |
| LM-11.6 | Compare and contrast wall construction materials and methods (i.e., poured in place, cinderblock, segmental retaining wall) |
| LM-11.7 | Perform appropriate mathematical calculations correctly..<br>(area, volume, measurement and proportions, etc.)              |

**Domain – Landscape Business****Core Standard 12:** Management practices**Standards**

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| LM-12.1 | Investigate certifications, job requirements, education requirements, and personal requirements to start and operate a landscape business |
| LM-12.2 | Identify the equipment and materials needed to start and operate a landscape business   |
| LM-12.3 | Prepare and present an estimate to a potential customer   |
| LM-12.4 | Identify and interpret health, safety, and welfare standards as dictated by local, state or federal agencies                              |

**Domain - Careers****Core Standard 13:** Career opportunities in agriculture**Standards**

- LM-13.1 Define and explore natural resource agriculture and natural resource agribusiness and their role in the economy
- LM-13.2 Evaluate and explore the natural resource career opportunities in agriculture
- LM-13.3 Identify how key organizational structures and processes affect organizational performance and the quality of products and services
- LM-13.4 Demonstrate those qualities, attributes and skills necessary to succeed in, or further prepare for, a chosen career while effectively contributing to society

**Domain - Leadership****Core Standard 14 :** Leadership skills development**Standards**

- LM-14.1 Acquire and demonstrate communication skills such as writing, public speaking, and listening while refining oral, written, and verbal skills
- LM-14.2 Recognize and explain the role of the FFA in the development of leadership, education, employability, communications and human relations skills
- LM-14.3 Examine roles within teams, work units, departments, organizations, inter-organizational systems, and the larger environment
- LM-14.4 Acquire the skills necessary to positively influence others
- LM-14.5 Develop a skill set to enhance the positive evolution of the whole person

**Domain - Supervised Agriculture Experience****Core Standard 15:** The SAE program**Standards**

- LM-15.1 Explain the nature of and become familiar with those terms related to an SAE program
- LM-15.2 Explore the numerous possibilities for an SAE program which a student might develop
- LM-15.3 Develop an individual SAE program and implement record keeping skills